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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,141	05/18/2005	Kunihiko Tokura		2774
530 7590 01/24/2008 LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			EXAMINER OLSEN, ALLAN W	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/521,141

Applicant(s)

TOKURA ET AL.

Examiner

Allan Olsen

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4,5 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,4,5 and 9-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 4, 5 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2, 4, 5 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements of the recited steps, such omission amounting to a gap between the elements of the steps. See MPEP § 2172.01.

Regarding the step of "coating the surface of the die with a photoresist", the omitted element of this step is that the recited "coating" is, according to page 8, lines 7-8 of applicant's specification, required to be a spray coating.

Regarding the step of "molding a photomask", the omitted element of this step is that the recited "molding", according to the paragraph bridging pages 7 and 8 of applicant's specification, is a vacuum molding process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 4, 5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,344,729 issued to Akins et al. (hereinafter, Akins) in view of JP 57-178810 and further in view of US Patent 4,254,184 issued to Tsukagoshi et al (hereinafter, Tsukagoshi).

Akins teaches a method for decorating the surface of a three-dimensional object. Akins teaches coating the surface of the three-dimensional object with a photoresist; Akins teaches molding a photomask into the same shape as the three-dimensional object. Akins teaches sticking the molded photomask onto the photoresist coated three-dimensional object. Akins teaches causing the uniform pattern formed on the photomask to be transferred to the surface of the three-dimensional object. Akins teaches the photomask molding step includes heating the photomask and sticking a heated photomask to the photoresist coated three-dimensional object.

Akin does not teach the three dimensional object is a die that is useable to form the diaphragm of a speaker.

JP-57178810 teaches patterning the surface of a die by etching the die surface through a photoresist mask that is contoured to the surface of the die.

Tsukagoshi teaches using a die with a patterned surface to form a speaker with a patterned surface.

It would have been obvious to one skilled in the art to employ the surface patterning method of Akins to make the surface patterned die of Tsukagoshi because although Tsukagoshi teaches using a die with a surface pattern, Tsukagoshi is silent with respect to the manner in which the pattern is imparted to the surface of the die. JP-56178810 teaches that the surface of a die may be patterned by etching while Akins teaches a method by which patterns are very accurately replicated on the surface of a three dimensional object by etching. While the three dimensional object that Akins patterns is a reusable photomask, the skilled artisan would immediately recognize that Akins method of accurately patterning a three-dimensional object has broader utility than that of patterning a photomask. For example, with the similar conformal application of patterned mask in JP-57178810, the skilled artisan could immediately envisage using Akins method to pattern the surface of a die, such as the patterned die used to make the diaphragm of Tsukagoshi's speaker.

Response to Arguments

Applicant's arguments, see page 5, third complete paragraph, filed October 1, 2007, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection, as presented above, is made in view of Akins, JP-57178810 and Tsukagoshi.

Applicant argues that neither Akins nor Tsukagoshi is directed to a process that imparts a pattern to the surface of a die. On this account applicant is correct. Applicant also argues that Tsukagoshi does not teach using a die with a surface pattern. On this account applicant is not correct. The examiner notes that figure 13 of Tsukagoshi

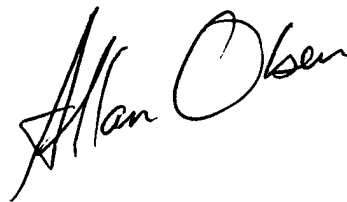
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depicts and column 10, lines 19-24, describes using a patterned die to form a speaker diaphragm.

Conclusion

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Allan Olsen". The signature is written in a cursive, flowing style with a large, prominent "O" in "Olsen".

Allan Olsen
Primary Examiner
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